BAE SYSTEMS

ORDNANCE SYSTEMS INC.
4509 West Stone Drive
Kingsport, Tennessee 37660-9982
Telephone (423) 578-8010
Fax (423) 578-8054

In Reply Reference 2804RO
Federal Express Tracking Number: 7986 1827 2620

July 13, 2012

Mr. Barry Stephens, Director
Tennessee Department of Environment and Conservation
Division of Air Pollution Control
9th Floor L & C Annex
401 Church Street
Nashville, Tennessee 37243-1531

Reference: BAE Systems Ordnance Systems Inc., Holston Army Ammunition Plant, Information Requested by TDEC for Open Burning Ground Sources 37-0028-10 and 37-0028-53.

Dear Mr. Stephens:

BAE Systems Ordnance Systems Inc. (OSI), operating contractor for Holston Army Ammunition Plant (HSAAP) in Kingsport, respectfully submits this summary of current activities at the site's open burning grounds (sources 37-0028-10 and 37-0028-53) and the steps taken to prevent pollution from these activities from affecting areas offsite. These burning ground activities are necessary to satisfy safety and security requirements of the U.S. Army. This summary will cover four main points:

- Layout and Current Status of the Open Burning Grounds
- Extra measures taken to ensure compliance with the Title V Permit
- Recent projects status involving the open burning grounds and projected timeframe of completion
- Recent technology reviews completed by the Army

At the end of this correspondence I would hope that it is apparent that OSI and the Army recognize the potential environmental effects of the open burning of waste explosives and explosives contaminated material and successfully maintain a balance between protecting the environment and the safe and secure handling of this material to ensure that this crucial facility continues to supply safe, effective, and versatile energetic products needed to support our armed forces.

Layout and Current Status of the Open Burning Grounds

The waste explosives and explosives contaminated material open burning (OB) area is located at the HSAAP Area B facility in Hawkins County. The OB area is located approximately 0.85 Miles from the closest facility boundary and approximately 1.5 miles from the closest resident. The activities at

the OB area are permitted through Title V Air Permit 558406 and the pans are permit ted by a RCRA Subpart X Permit. All storm water runoff is collected and diverted to the onsite NPDES permitted waste water treatment facility. This summary only references the Title V Air Permit 558406 conditions as these are the only requirements related to air quality.

There are three main types of wastes. The first is bulk raw explosives that have become contaminated through contact with the manufacturing floor or out-of-spec product unsuitable for use or re-processing. This waste is burned normally each week in burn pans. The explosive material combusts rapidly and very completely at a high temperature; producing very little visible emissions. The second type of waste consists of explosives-contaminated small articles such as plastic bags, paper towels, filters, personal protective equipment, and dewatering filter socks. This material is placed in a steel cage and is generally burned once a week even though it is permitted daily. Visible emissions are observed from this activity but usually the cage material combusts quickly. The third type of waste is large articles that may be contaminated with explosives and includes various materials, piping from buildings, process vessels, building demolition material including concrete, and possibly soil surrounding these areas. This material is placed in large piles at the burning ground and burned quarterly as permitted and produces visible emissions for a longer period. Since many of the materials that are required to be thermally decontaminated are not combustible, large amounts of clean wood are used along with small quantities of kerosene or diesel to facilitate the burning of pile material. Much of the visible emissions come from this material. This allows the material to reach the required temperatures for the required duration to ensure that these materials can be transported safely.

All explosive contaminated materials must be disposed of in accordance with the requirements of the Department of the Army Technical Bulletin 700-4 for Decontamination of Facilities and Equipment, which is by burning. Currently, no other safe alternative method can be utilized to meet the desired level of decontamination for safe handling of the material.

OSI operates the OB area in accordance with Title V Permit 558406. Only material meeting the characteristics of Conditions E5-3 and E26-3 from onsite is burned at the area in accordance with Conditions E5-5 and E26-5. Records required by Conditions E5-4 and E26-4 demonstrating compliance with Conditions E5-1, E26-1, and E26-2 are maintained and are included for 2012 as an attachment. Records are also maintained for Conditions E5-2 and E26-1 specifically to address air dispersion conditions. These conditions were established to ensure that acceptable pollutant dispersion conditions are present. OSI receives advance approval from the Division of Air Pollution Control's Johnson City Environmental Field Office for all quarterly pile burns. OSI has always followed the requirements of the permit by monitoring weather service bulletins to ensure there are no air stagnation advisories nor any EPA Air Now ozone or PM2.5 action days for the selected burn dates. However, since the quarterly burns have the potential for the highest emissions, OSI has recently taken extra measures by documenting fire weather data to ensure that the best possible pollutant dispersion conditions are present when selecting a date for the quarterly burns. At no time is any of the material burned during either an air stagnation advisory in East Tennessee or an EPA action day.

Extra Measures Taken to Ensure Compliance with the Title V Permit

In conjunction with Liesa R. Elliott, consulting meteorologist, an Excel-based tool was developed which uses information from the National Weather Service (NWS) bulletins, EPA's Air Now website, and data from the NWS fire weather website to calculate an air dispersion ventilation rate. A letter discussing this tool from Ms. Elliot is attached to this correspondence. The pile burns for the first two quarters were conducted during excellent and good dispersion conditions which allowed the plumes from these burns to be very visible from the surrounding area. Copies of the fire weather data screenshots and the calculation tool for the last two pile burns are attached for your review.

Recent projects status involving the open burning grounds and projected timeframe of completion

Over the past several years OSI and the Army have been working on removing inoperable and decommissioned equipment and structures from the site to create a better working environment and reduce the safety, security, and environmental risks with having these types of facilities on site. This has been a multi-year project and is approximately 50% complete. This has resulted in a slight increase in the amount of pile burns during the year. The burn events went from approximately two per year to four per year as permitted. The estimated completion date for the second phase of the demolition projects is in approximately three years.

Recent technology reviews completed by the Army

A March 2012 report (ERDC/EL TR-12-8) titled Alternative Treatment Options for Open Burning of Explosive Waste at Holston Army Ammunition Plant was the latest technology review conducted. Technology was reviewed for all three types of wastes currently burned at the open burning grounds. This report was prepared for the Program Manager, Joint Services, U.S. Army Research, Development and Engineering Center, Picatinny Arsenal, NJ. It includes the results of Work Unit A1040, Modernization of Industrial Base. The research was conducted by the U.S. Army Engineer Research and Development Center (ERDC)-Environmental Laboratory (EL), Vicksburg, MS, under the sponsorship of the U.S. Army Armament, Research, Development and Engineering Center (ARDEC), Picatinny Arsenal and the U.S. Army ARDEC Program Executive Office for Ammunition, Heavy Metals Office, Picatinny Arsenal.

Five commercially available technologies were evaluated with the most important consideration in the comparison being the safety profile of the system. One of the five was not considered proven to be safe and reliable for any of the waste streams at HSAAP. Of the remaining four technologies two could not be used at all for the bulk contaminated wastes and the final two could only treat the bulk materials if they were first processed through grinding. The grinding technology was not evaluated and at this point there is little information on safe and technically feasible technologies that could safely pre-process the bulk materials that currently go on the piles or the cages. It is likely that each type of waste would require a separate type of technology. The explosives waste that has the fewest emissions

appears to have other safe alternatives to open burning. However, currently because of the pre-processing step there are no other safe alternatives to open burning of the pile and cage waste.

Mr. James Ogle serves as BAE Systems OSI's primary contact for air program issues and may be reached at (423) 578-6231 or by email at james.ogle@baesystems.com. Please do not hesitate to contact Mr. Ogle should questions arise or additional information be needed.

Sincerely,

BAE SYSTEMS Ordnance Systems Inc.

R.E. Winstead
Environmental Manager

Reviewed by HSAAP Staff

cc Environmental Affairs/Ogle
HSAAP/Vestal
Environmental Affairs Files 1305/2012

BAE SYSTEMS Ordnance Systems Inc. HSAAP Title V Permit

Source #37-0028-10 Open Burning of Explosives Contaminated Waste
Permit #558406 (Superceeded #547362) Conditions E5-1 and E5-4
January through December 2012 Reporting Period

Condition E5-1: *"This source shall only operate during the hours between 08:30 AM and 7:30 PM daily and shall not be operated in excess of 400 hours per year."*

Condition E5-4: *"The owner or operator of this source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division personnel. ."*

Compliance Demonstration: Recordkeeping of Open Burning Activity

Limitation: 400 hours per year

Explosive Contaminated Waste (Cages)

Burn #	Date of Burn	Start Time	Hours	Minutes	Duration (hours)
1	01/06/2012	835	2	0	2.0
2	01/13/2012	900	1	0	1.0
3	01/20/2012	1030	1	0	1.0
4	01/27/2012	1400	2	0	2.0
5	02/03/2012	1100	2	0	2.0
6	02/10/2012	900	2	0	2.0
7	02/17/2012	910	2	0	2.0
8	03/01/2012	930	2	0	2.0
9	03/13/2012	1405	2	0	2.0
10	03/16/2012	915	2	0	2.0
11	03/23/2012	940	2	0	2.0
12	04/03/2012	1300	2	0	2.0
13	04/23/2012	1100	2	0	2.0
14	05/07/2012	1250	2	0	2.0
15	05/30/2012	1500	2	0	2.0
16	06/11/2012	1230	2	0	2.0
17	06/13/2012	1200	2	0	2.0
Total Burn Time	(hours)				32.0

Explosive Contaminated Waste (Pile)

Date of Burn	Start Time	Hours	Minutes	Duration (hours)
3/28/2012	1000	24	0	24.0
6/25/2012	1320	36	0	36.0
Total Burn Time	(hours)			60.0

Overall CY Period Burn Time	(hours)	**92.0**

Overall Burn Limit per year	(hours)	**400.0**

BAE SYSTEMS Ordnance Systems Inc. HSAAP Title V Permit

Source #37-0028-53 Open Burning of Explosive Wastes

Title V Permit 558406 - Conditions E26-1, E26-2, and E26-4 (Previously Permit #547362 - Conditions E31-1, E31-2, and E31-4)

January through December 2012 Reporting Period

Sequel Burn Report Link

Condition E26-1: *"Open burning of explosive waste shall be conducted between the hours of 12:00 (noon) and 4:00 PM . . ."*

Condition E26-2: *"This source shall not be operated in excess of 1300 hours per year."*

Condition E26-4: *"The owner or operator of this source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division*

Compliance Demonstration: Recordkeeping of Burning of Explosives
Limitation: 1300 hours per year

	Explosive Waste Burns			
Burn Number	Date of Burn	Start Time	Minutes	Duration (hours)
1	1/4/2012	1410	30	0.50
2	1/10/2012	1345	30	0.50
3	1/11/2012	1410	20	0.33
4	1/13/2012	1420	15	0.25
5	1/16/2012	1420	30	0.50
6	1/18/2012	1315	30	0.50
7	1/30/2012	1440	50	0.83
8	1/31/2012	1430	20	0.33
9	2/6/2012	1330	50	0.83
10	2/7/2012	1345	35	0.58
11	2/8/2012	1215	30	0.50
12	2/15/2012	1410	30	0.50
13	2/16/2012	1530	20	0.33
14	2/17/2012	1300	30	0.00
15	2/18/2012	1301	25	0.42
16	2/26/2012	1335	35	0.58
17	3/6/2012	1250	20	0.33
18	3/12/2012	1330	30	0.50
19	3/23/2012	1300	20	0.33
20	4/2/2012	1245	45	0.75
21	4/3/2012	1215	30	0.50
22	4/4/2012	1230	30	0.50
23	4/12/2012	1315	30	0.50
24	4/13/2012	1245	30	0.50
25	4/25/2012	1215	15	0.25
26	5/2/2012	1250	30	0.50
27	5/7/2012	1325	30	0.50
28	5/10/2012	1455	30	0.50
29	5/18/2012	1500	20	0.33
30	5/21/2012	1410	20	0.33
31	5/22/2012	1345	20	0.33
32	5/23/2012	1400	20	0.33
33	5/24/2012	1305	20	0.33
34	5/25/2012	1215	30	0.50

Explosive Waste Burns				
Burn Number	Date of Burn	Start Time	Minutes	Duration (hours)
35	5/31/2012	1340	20	0.33
36	6/4/2012	1400	20	0.33
37	6/5/2012	1345	20	0.33
38	6/6/2012	1205	30	0.50
39	6/7/2012	1210	15	0.25
40	6/8/2012	1230	15	0.25
41	6/11/2012	1200	30	0.50
42	6/12/2012	1200	30	0.50
43	6/13/2012	1200	30	0.50
44	6/14/2012	1230	30	0.50
45	6/15/2012	1500	45	0.75
46	6/17/2012	1300	20	0.33
47	6/18/2012	1330	20	0.33
48	6/25/2012	1240	20	0.33
49	6/26/2012	1410	20	0.33
50	6/28/2012	1405	15	0.25
51	7/2/2012	1405	20	0.33
52	7/3/2012	1405	35	0.58
		Total Burn Time This Period (Hours)		**22.5**
		Burn Time Limit (Hours)		**1300.0**

Liesa R. Elliott
Consulting Meteorologist

3/26/2012

* * *

Liesa R. Elliott
6065 Frontier Lane, Suite 200
Nashville, Tennessee 37211

Mr. James Ogle
BAE Systems OSI
Holston Army Ammunition Plant
4509 West Stone Drive
Kingsport, TN 37660

Dear Jimmy:

It is my understanding that you need a way to verify that the weather at the Holston Army Ammunition Plant in Kingsport, Tennessee, for each of the selected burn dates of March 27-30, are conducive for adequate air dispersion to meet the following permit condition from your Title V Permit No. 558406.

Condition E5-2 states:

It is recognized that there are two categories of explosive contaminated materials open burning. The following procedures shall be adhered to in determining whether or not acceptable pollutant dispersion conditions are present:

(a) Daily open burning of trash container waste in the cage receptacle will not be permitted in the instance of an air stagnation advisory in East Tennessee. It will be the responsibility of the permittee to monitor the local National Oceanic and Atmospheric Administration's Weather Service Office bulletins to determine if acceptable pollutant dispersion conditions are present

(b) Quarterly open burning of explosive contaminated materials not appropriate for burning in the cage receptacle shall be conducted only upon advance approval for each burn from the Division Air Pollution Control's Johnson City Environmental Field Office. Under no circumstances shall the permittee open burn during an air stagnation advisory in East Tennessee.

TAPCR 1200-3-4-.04(1)(h), 1200-3-4-.04(1)(k) & 1200-3-19-.05(2)

You and I worked together to develop a spreadsheet tool (see attached file) to indicate air dispersion conditions.

The spreadsheet utilizes the following criteria for acceptable dispersion conditions and burn recommendation:

- No fire, air pollution action day or air stagnation warnings,
- Calculated ventilation rates greater than 60,000 kt-ft. The ventilation rate is the mixing height multiplied by the transport wind speed, as provided by the National Weather Service (NWS) fire weather forecast. Ventilation rates greater than 60,000 kt-ft are considered good to excellent conditions for smoke dispersion,
- Predicted surface winds are equal to or greater than 5 mph during daylight hours as provided by the NWS fire weather forecast,
- Predicted surface wind gusts are equal to or less than 25 mph as provided by the NWS fire weather forecast, and
- Predicted 6-hour accumulated precipitation amounts are equal to or less than 0.05 inches as provided by the NWS fire weather forecast.

The spreadsheet tool user is cautioned if the Haines Index (HI) is greater than 5, which indicates a moderate or high potential for large fire growth. The user is also cautioned if there is any amount of precipitation predicted for the day.

It is my opinion as an Air Quality Consulting Meteorologist, that the spreadsheet tool will meet your permit conditions and indicate adequate dispersion conditions. This tool would be applicable to use for the burn dates requested, as well as future burn dates as needed by your facility.

I sincerely appreciate the opportunity to work with you again, and look forward to additional collaborations in the future.

Best Regards,

Liesa R. Elliott

Liesa R. Elliott
Consulting Meteorologist

weather.gov

Watches, Warnings or Advisories for Tennessee

Local forecast by "City, St"
City, St Go
Sign-up for Email Alerts
XML RSS Feeds
Warnings
Current
By State/County...
UV Alerts
Observations
Radar
Satellite
Snow Cover
Surface Weather...
Observed Precip
Forecasts
Local
Graphical
Aviation
Marine
Hurricanes
Severe Weather
Space Weather
Fire Weather
Text Bulletins
By State
By Message Type
National
Forecast Models
Numerical Models
Statistical Models...
MOS Prod
GFS-LAMP Prod
Climate
Past Weather
Predictions
Weather Safety
Weather Radio

Watches, Warnings or Advisories for Tennessee

This page shows alerts *currently* in effect for Tennessee and is normally updated every two-three minutes.
Please see here for other state and listing by county.

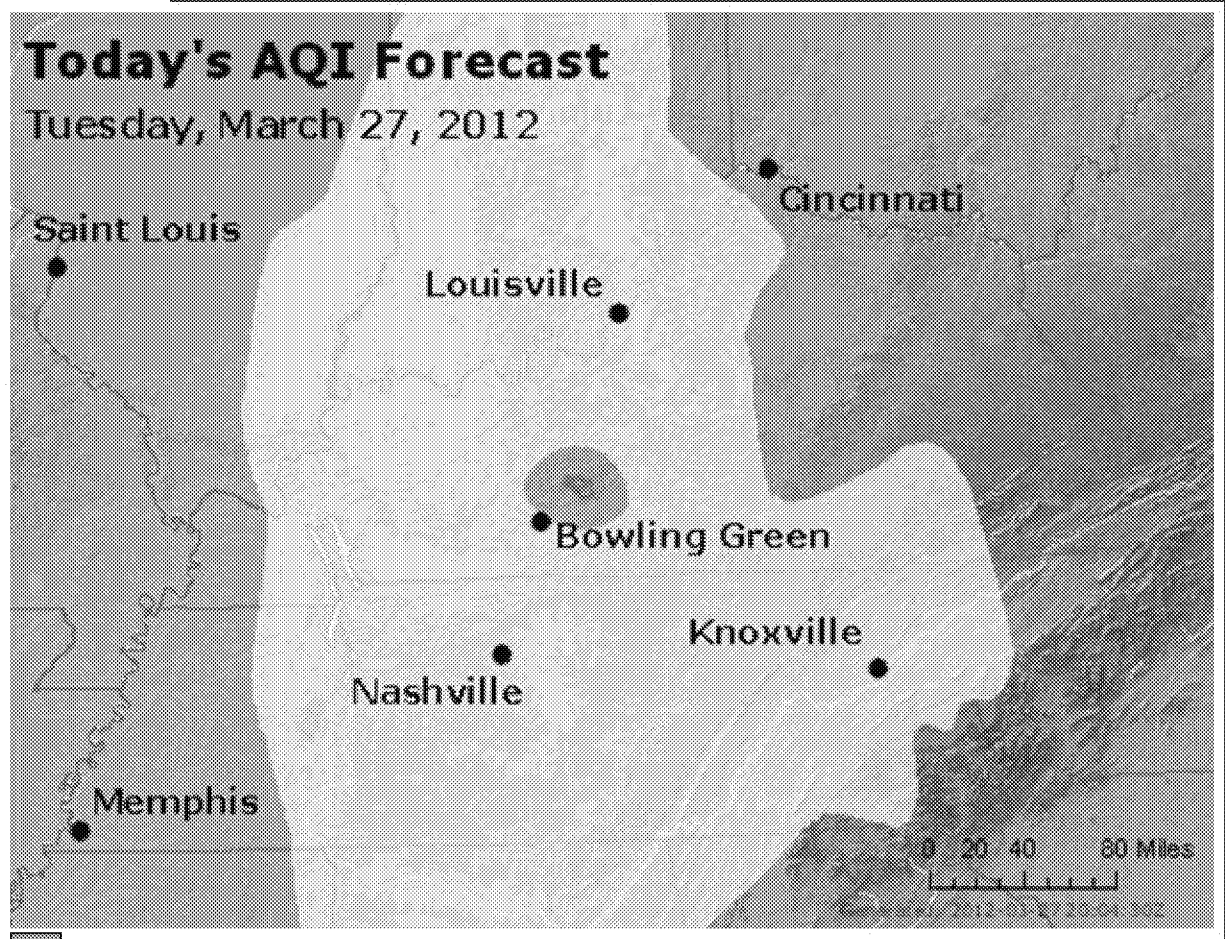
Last updated: 20:55 GMT on 03-27-2012

There are no active watches, warnings or advisories

US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
1325 East West Highway
Silver Spring, MD 20910
Page Author: NWS Internet Services Team

Data courtesy of: Tennessee Department of Environment and Conservation

Forecast | Current AQI | AQI Animation



Good | Moderate | USG | Unhealthy | Very Unhealthy | Hazardous | ! Action Day

Local Air Quality Resources

Action Day Program | Action Day Programs

State Air Quality Resources

American Lung Association (ALA) of Tennessee

Tennessee Air Quality Forecasting Program

Tennessee DEC - Air

Air Quality Forecast

Today's High	Tomorrow's High
Air Quality Index (AQI)	Air Quality Index (AQI)
50 Good	54 Moderate
Health Message: None	**Health Message:** Unusually sensitive people should consider reducing prolonged or heavy exertion outdoors.

AQI - Pollutant Details

Ozone	50	Good	Ozone	54	Moderate
Particles (PM2.5)	48	Good	Particles (PM2.5)	51	Moderate

Current Conditions

Air Quality Index (AQI)
observed at 16:00 EDT

22 Good

Health Message: None

AQI - Pollutant Details

Particles (PM2.5)	22	Good

Past Air Quality Maps and Data

Yesterday's Maps and Data

Air Quality Maps Archives (by region)

E-Mail Notification

Routine Fire Wx Fcst (With/Without 6-10 Day Outlook)

Tennesee Forestry District 1

Issued by NWS Knoxville/Tri Cities, TN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000
FNUS54 KMRX 271905
FWFMRX

FIRE WEATHER PLANNING FORECAST FOR EAST TENNESSEE...SOUTHWEST
VIRGINIA...AND EXTREME SOUTHWEST NORTH CAROLINA
NATIONAL WEATHER SERVICE MORRISTOWN TN
305 PM EDT TUE MAR 27 2012

.DISCUSSION...
HIGH PRESSURE WILL CONTINUE OVER THE SOUTHERN APPALACHIAN REGION
TONIGHT...BUT WILL GRADUALLY WEAKEN AS A COLD FRONT APPROACHES THE
AREA ON WEDNESDAY. CLOUDS WILL BE ON THE INCREASE AFTER
SUNRISE...WITH A CHANCE OF SHOWERS AND THUNDERSTORMS BY THE
AFTERNOON HOURS. PRECIPITATION CHANCES TAPER OFF ON THURSDAY
MORNING...AS THE FRONT MOVES TO OUR SOUTH. WARM AND DRY CONITIONS
RETURN FOR THURSDAY AFTERNOON AND FRIDAY.
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National Weather Service
Morristown, TN Weather Forecast Office
5974 Commerce Blvd.
Morristown, TN 37814
(423) 586-3771
Page Author: MRX Webmaster
Web Master's E-mail: sr-mrx.webmaster@noaa.gov
Page last modified: Feb 22nd, 2011 18:19 UTC

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Fire Weather News

+ Current Hazards
+ Fire Situa
+ Forecast
+ Current C
+ Outlooks
+ Drought/F
+ Fuels
+ Air Qualit
+ Admin
+ GACCs
+ Other Age

Tabular

FORECAST VALID AT (EDT)	SC %	PP %	CWR %	TF F	TD F	MX TF	RH %	MX RH	SFC WIND DIR	SFC WIND MPH	GST	HIL	10K WIND DIR	10K WIND MPH	MIXG HGT AGL	TRAN WIND DIR	TRAN WIND MPH	VENTL RATE KT-FT	AJTV RATG	QPF 6HRS DUR
03/27-4P	14	0		71	36		28		SW	5	6	4 1			5782	W	3			
03/27-5P	14	0		72	37		28		W	5	6	4 1			5782	W	3			
03/27-6P	14	0		71	38	73	30	28	SW	5	6	4 1			5782	W	3			
03/27-7P	14	0		69	38		32		S	5	6	4 1			5782	W	3			
03/27-8P	19	0		66	39		37		SW	3	5	1								0.00
03/27-9P	19	0		63	40		43		S	5	6	1								
03/27-10P	19	0		61	40		46		S	6	8	1								
03/27-11P	19	0		59	41		51		S	6	8	1								
03/28-12A	19	0		58	41		53		S	5	6	1								
03/28-1A	19	0		56	42		59		S	3	5	1								
03/28-2A	35	0		55	42		61		S	2	2	1								0.00
03/28-3A	35	0		54	42		64		S	2	2	1								
03/28-4A	35	0		53	43		69		SE	2	2	1								
03/28-5A	44	0		52	43		71		SE	2	2	1								
03/28-6A	44	0		51	43	48	74	80	SE	2	2	1								
03/28-7A	44	0		50	44		80		S	1	1	1								
03/28-8A	55	9		50	44		80		S	2	2	3 1			6818	W	28			0.00
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03/28-10A	55	9		58	46		64		SW	7	9	3 1			6818	W	28			
03/28-11A	55	14		62	48		60		SW	9	14	3 1			6818	W	28			

Hazardous Weather Outlook
Watches/Warnings Large Incidents Spot Forecasts Day-1 Precip IMET Locations
Map data ©2012 Google - Terms of Use
Kingsport
Hawaii
Guam

National Weather Service - Fire Weather - Windows Internet Explorer

http://www.srh.noaa.gov/ridge2/fire/index.php?lat=36.537226036159988&lon=-82.582855224609378&zoom=12

File Edit View Favorites Tools Help

Favorites Yahoo! Suggested Sites Free Hotmail Google Get more Add-ons

National Weather Service - Fire Weather

Page Safety Tools

EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL...

Fire Weather News

+ Current Hazards
+ Fire Situa
+ Forecast
+ Current C
+ Outlooks
+ Drought/F
+ Fuels
+ Air Qualit
+ Admin
+ GACCs
+ Other Ag

Tabular

03/28-11A	55	14		62	48		60		SW	9		14	3	1			6818	W	28				
03/28-12P	55	14		66	49		54		SW	12		17	3	1			6818	W	28				
03/28-1P	55	14		69	49		49		SW	13		20	3	1			6818	W	28				
03/28-2P	68	23		72	50		46		SW	14		21	3	2			6818	W	28			0.00	
03/28-3P	68	23		74	50		43		SW	14		21	3	2			6818	W	28				
03/28-4P	68	23		75	50		41		SW	14		21	3	2			6818	W	28				
03/28-5P	68	32		76	50		40		SW	13		20	3	3			6818	W	28				
03/28-6P	68	32		75	51	77	43	40	SW	12		17	3	3			6818	W	28				
03/28-7P	68	32		73	52		48		SW	12		17	3	3			6818	W	28				
03/28-8P	68	44		70	54		57		SW	10		16		3								0.05	
03/28-9P	68	44		67	54		63		SW	9		14		3									
03/28-10P	68	44		65	54		68		SW	9		14		3									
03/28-11P	68	44		63	53		70		W	10		16		3									
FORECAST VALID AT (EDT)	SC %	PP %	CWR %	TF F	TD F	MX TF	RH %	MN RH	SFC WIND DIR	SFC WIND MPH	G ST	H I	L A L	10K WIND DIR	10K WIND MPH	MIXG HGT AGL	TRAN WIND DIR	TRAN WIND MPH	VENTL RATE KT-FT	AJTV RATG	QPF 6HR DUR		
03/29-12A	68	44		62	52		70		W	9		14		3									
03/29-1A	68	44		60	52		75		W	9		14		3									
03/29-2A	68	29		59	51		75		NW	8		12		3								0.08	
03/29-3A	68	29		58	51		77		NW	7		9		3									
03/29-4A	68	29		57	50		77		NW	7		9		3									
03/29-5A	68	29		56	50		80		NW	6		8		3									
03/29-6A	68	29		55	49	52	80	80	NW	5		6		3									

Hazardous Weather Outlook

Watches/Warmings Large Incidents Spot Forecasts Day-1 Precip IMET Locations

Done

Internet | Protected Mode: On

115%

1:03 PM
3/27/2012

ED_001691B_00002899

EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL... EXPERIMENTAL...

Fire Weather News

+ Current Hazards
+ Fire Situa
+ Forecast
+ Current C
+ Outlooks
+ Drought/F
+ Fuels
+ Air Qualit
+ Admin
+ GACCs
+ Other Ag

Tabular

03/29-5A	68	29		56	50		80		NW	6		8		3								
03/29-6A	68	29		55	49	52	80	80	NW	5		6		3								
03/29-7A	68	29		54	48		80		NW	5		6		3								
03/29-8A	51	10		54	48		80		W	5		6	5	1			6545	NW	16			0.01
03/29-9A	51	10		56	48		74		W	7		9	5	1			6545	NW	16			
03/29-10A	51	10		59	49		69		NW	10		16	5	1			6545	NW	16			
03/29-11A	51	10		62	49		62		NW	14		21	5	1			6545	NW	16			
03/29-12P	51	10		65	48		54		NW	15		23	5	1			6545	NW	16			
03/29-1P	51	10		67	46		47		NW	15		23	5	1			6545	NW	16			
03/29-2P	27	5		69	44		40		NW	14		21	5	1			6545	NW	16			0.00
03/29-3P	27	5		69	42		37		NW	14		21	5	1			6545	NW	16			
03/29-4P	27	5		70	40		33		NW	13		20	5	1			6545	NW	16			
03/29-5P	27	5		71	39		31		NW	12		17	5	1			6545	NW	16			
03/29-6P	27	5		69	38	72	32	31	NW	9		14	5	1			6545	NW	16			
03/29-7P	27	5		67	38		34		N	7		9	5	1			6545	NW	16			
03/29-8P	24	0		64	38		38		N	5		6	0									0.00
03/29-9P	24	0		60	38		44		N	3		5										
03/29-10P	24	0		57	39		51		N	3		5										
03/29-11P	24	0		54	39		57		NE	3		5										
FORECAST VALID AT (EDT)	**SC %**	**PP %**	**CWR %**	**TF F**	**TD F**	**MX MN TF**	**RH %**	**MX MN RH**	**SFC WIND DIR**	**SFC WIND MPH**	**G S T**	**H I**	**L A L**	**10K WIND DIR**	**10K WIND MPH**	**MIXG HGT AGL**	**TRAN WIND DIR**	**TRAN WIND MPH**	**VENTL RATE KT-FT**	**AJTV RATG**	**QPF 6HRS DUR**	
03/30-12A	24	0		52	39		61		NE	3		5										

Hazardous Weather Outlook
Map data ©2012 Google - Terms of Use
Watches/Warnings Large Incidents Spot Forecasts Day-1 Precip IMET Locations
Kingsport
Hawaii
Guam

National Weather Service

Watches, Warnings & Advisories

weather.gov

Local weather forecast by "City, St" or zip code 37660 Go

Air Stagnation Advisory

Back to previous page

U.S. Dept. of Commerce
NOAA National Weather Service
1325 East West Highway
Silver Spring, MD 20910
E-mail: w-nws.webmaster@noaa.gov
Page last modified: June 2, 2009

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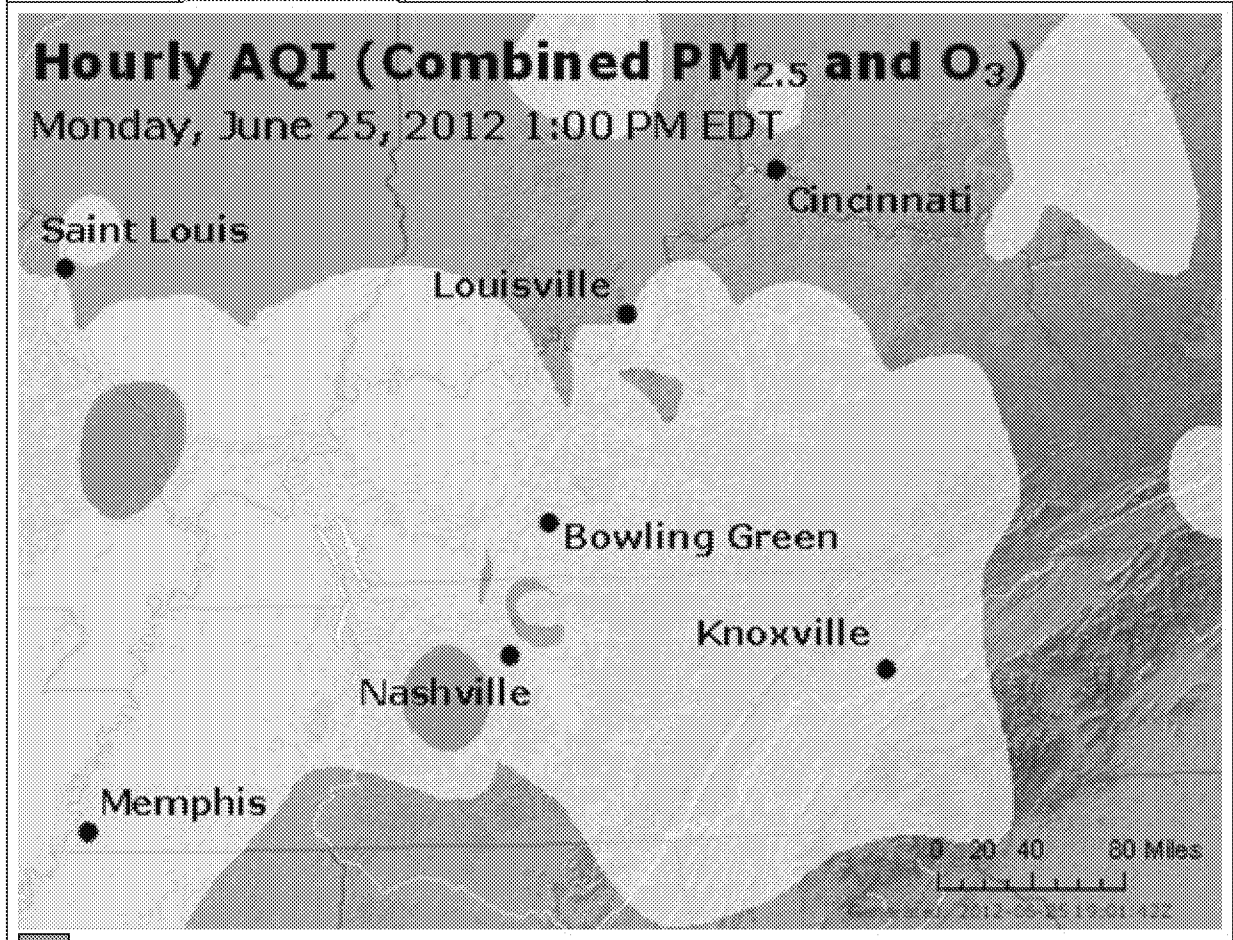
Data courtesy of: Tennessee Department of Environment and Conservation

Forecast | Current AQI | AQI Animation



Good | Moderate | USG | Unhealthy | Very Unhealthy | Hazardous | ! Action Day

Local Air Quality Resources

Action Day Program | Action Day Programs

State Air Quality Resources

American Lung Association (ALA) of Tennessee

Tennessee Air Quality Forecasting Program

Tennessee DEC - Air

Air Quality Forecast

Today's High	Tomorrow's High
Air Quality Index (AQI): 100 Moderate **Health Message:** Unusually sensitive people should consider reducing prolonged or heavy exertion outdoors.	Data Not Available

AQI - Pollutant Details

Ozone	100	Moderate	Data Not Available
Particles (PM2.5)	56	Moderate	

Current Conditions

Air Quality Index (AQI)
observed at 14:00 EDT

49 **Good**

Health Message: None

AQI - Pollutant Details

Particles (PM2.5)	49	Good

Past Air Quality Maps and Data

Yesterday's Maps and Data

Air Quality Maps Archives (by region)

E-Mail Notification

Routine Fire Wx Fcst (With/Without 6-10 Day Outlook)

Tennesee Forestry District 1

Issued by NWS Knoxville/Tri Cities, TN


```
000
FNUS54 KMRX 250651
FWFMRX

FIRE WEATHER PLANNING FORECAST FOR EAST TENNESSEE...SOUTHWEST
VIRGINIA...AND EXTREME SOUTHWEST NORTH CAROLINA
NATIONAL WEATHER SERVICE MORRISTOWN TN
251 AM EDT MON JUN 25 2012

.DISCUSSION...
A DRY COLD FRONT WILL SWING THROUGH THE AREA TODAY...USHERING IN A
BRIEF SHOT OF COOLER AIR.  HIGH PRESSURE WILL BUILD IN BEHIND THE
FRONT.
```

National Weather Service
Morristown, TN Weather Forecast Office
5974 Commerce Blvd.
Morristown, TN 37814
(423) 586-3771
Page Author: MRX Webmaster
Web Master's E-mail: sr-mrx.webmaster@noaa.gov
Page last modified: Feb 22nd, 2011 18:19 UTC

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Tabular

TABULAR WEATHER FORECAST

ISSUED BY:	NATIONAL WEATHER SERVICE MRX
FORECAST RELEASE TIME:	2:48 AM EDT ON JUN 25, 2012
FORECAST PERIOD:	8AM EDT JUN 25, 2012 TO 6PM EDT JUL 2, 2012
CURRENT TIME:	821 AM UTC MON JUN 25 2012
POINT INFORMATION:	Zone Num: TNZ150 Latitude: 36.537N Longitude: -82.570W Elevation: 1194FT
LOCATIONS WITHIN 5 MILES:	Kingsport TN
FIRE ZONE FWF PRODUCT:	Click Here to view the Fire Weather Narrative (FWF) for Zone TNZ150
SUNRISE/SUNSET INFO:	Sunrise: 6:13 AM EDT Sunset: 8:52 PM EDT
GRAPHIC FORMAT:	Click Here to view Forecast Data in a Graphical Format

FORECAST VALID AT (EDT)	SC %	PP %	CWR %	TF F	TD F	MX MN TF	RH %	MX MN RH	SFC WIND DIR	SFC WIND MPH	G S T	H I	A L	10K WIND DIR	10K WIND MPH	MIXG HGT AGL	TRAN WIND DIR	TRAN WIND MPH	VENTL RATE KT-FT	AJTV RATG	QPF 6HRS DUR	SNO 6HR DUR
06/25-8A	35	8		65	63		93		E	1	1	4	1			8650	N	10			0.00	0.0
06/25-9A	35	8		70	63		78		NE	1	1	4	1			8650	N	10				
06/25-10A	35	8		76	63		64		N	2	2	4	1			8650	N	10				
06/25-11A	35	8		81	63		54		N	3	5	4	1			8650	N	10				
06/25-12P	35	8		86	62		45		N	3	5	4	1			8650	N	10				
06/25-1P	35	8		87	61		42		N	5	6	4	1			8650	N	10				
06/25-2P	48	14		88	60		39		N	5	6	4	1			8650	N	10			0.00	0.0
06/25-3P	48	14		89	58		35		N	6	8	4	1			8650	N	10				
06/25-4P	48	14		90	57		33		N	7	9	4	1			8650	N	10				
06/25-5P	48	14		90	57		33		N	7	9	4	1			8650	N	10				

Tabular

FORECAST VALID AT (EDT)	SC %	PP %	CWR %	TF F	TD F	MX TF MN	RH %	MX RH MN	SFC WIND DIR	SFC WIND MPH	G S T	H I	L A L	10K WIND DIR	10K WIND MPH	MIXG HGT AGL	TRAN WIND DIR	TRAN WIND MPH	VENTL RATE KT-FT	AJTV RATG	QPF 6HRS DUR	SNO 6HR DUR
06/25-3P	48	14		89	58		35		N	6	8	4	1			8650	N	10				
06/25-4P	48	14		90	57		33		N	7	9	4	1			8650	N	10				
06/25-5P	48	14		90	57		33		N	7	9	4	1			8650	N	10				
06/25-6P	48	14		89	57	92	34	33	N	7	9	4	1			8650	N	10				
06/25-7P	48	14		86	58		39		N	6	8	4	1			8650	N	10				
06/25-8P	20	5		83	58		43		N	6	8		1								0.00	0.0
06/25-9P	20	5		78	59		52		N	5	6		1									
06/25-10P	20	5		72	60		66		NW	5	6		1									
06/25-11P	10	5		69	60		73		NW	5	6		1									
06/26-12A	10	5		66	60		81		NW	5	6		1									
06/26-1A	10	5		63	59		87		NW	5	6		1									
06/26-2A	2	1		61	57		87		NW	3	5		1								0.00	0.0
06/26-3A	2	1		60	56		87		NW	3	5		1									
06/26-4A	2	1		59	55		87		NW	3	5		1									
06/26-5A	2	1		58	55		90		NW	3	5		1									
06/26-6A	2	1		57	54	55	90	93	NW	3	5		1									
06/26-7A	2	1		56	54		93		NW	2	2		1									
06/26-8A	5	0		59	54		83		NE	7	9	4	1			5885	NE	16			0.00	0.0
06/26-9A	5	0		63	53		70		NE	7	9	4	1			5885	NE	16				
06/26-10A	5	0		66	51		58		NE	7	9	4	1			5885	NE	16				
06/26-11A	5	0		70	50		49		NE	8	12	4	1			5885	NE	16				

FORECAST VALID AT (EDT)	SC %	PP %	CWR %	TF F	TD F	MX MN TF	RH %	MX MN RH	SFC WIND DIR	SFC WIND MPH	GST	HI	AL	10K WIND DIR	10K WIND MPH	MIXG HGT AGL	TRAN WIND DIR	TRAN WIND MPH	VENTL RATE KT-FT	AJTV RATG	QPF 6HRS DUR	SNO 6HR DUR
06/26-9A	5	0		63	53		70		NE	7	9	4	1			5885	NE	16				
06/26-10A	5	0		66	51		58		NE	7	9	4	1			5885	NE	16				
06/26-11A	5	0		70	50		49		NE	8	12	4	1			5885	NE	16				
06/26-12P	5	0		73	49		43		N	8	12	4	1			5885	NE	16				
06/26-1P	5	0		75	48		38		N	8	12	4	1			5885	NE	16				
06/26-2P	5	0		77	47		35		N	8	12	4	1			5885	NE	16			0.00	0.0
06/26-3P	5	0		78	46		32		N	8	12	4	1			5885	NE	16				
06/26-4P	5	0		79	46		31		N	8	12	4	1			5885	NE	16				
06/26-5P	5	0		79	46		31		N	8	12	4	1			5885	NE	16				
06/26-6P	5	0		77	46	80	33	31	N	7	9	4	1			5885	NE	16				
06/26-7P	5	0		76	47		36		N	7	9	4	1			5885	NE	16				
06/26-8P	5	0		73	48		41		N	7	9	0	1								0.00	0.0
06/26-9P	5	0		69	49		49		N	7	9		1									
06/26-10P	5	0		65	50		58		NE	7	9		1									
06/26-11P	5	0		62	51		67		NE	7	9		1									
06/27-12A	5	0		60	51		72		NE	6	8		1									
06/27-1A	5	0		59	51		75		NE	6	8		1									
06/27-2A	5	0		57	51		80		NE	6	8		1								0.00	0.0
06/27-3A	5	0		56	51		83		NE	6	8		1									
06/27-4A	5	0		55	50		83		NE	6	8		1									

BAE SYSTEMS **Ordnance Systems Inc. HSAAP**

Air Dispersion Tool for Burn Events

Instruction: Enter data in the cells below based on the proposed burn date and information obtained from Linked websites for Kingsport, TN location

Check for Air Stagnation Warnings — NWS Air Stagnation Advisory

Check for EPA Action Day Alerts — Tricities EPA Current Air Quality

Check for Fire Warnings — Fire Weather Link View Fire Weather Summary Tab

START HERE → STEP 1 → STEP 2 → STEP 3 → STEP 4 - FINISH

STEP 4 - FINISH		STEP 1	STEP 2	STEP 3						
		Enter Date of Proposed Burn at HSAAP	Review Links for fire, action day, or air stagnation warnings	ENTER DATA FROM WEBSITE						Air Dispersion Calculation DO NOT ENTER DATA
				Fire Weather Data LINK to WEBSITE						
CAUTION = Data within range but one or more values are high/low	Burn Recommended Yes/No	Date of Proposed Burn	Are there any safety or air dispersion warnings (1=YES, 0=NO)	Lowest SFC WIND MPH during daylight hours	Hightest GST from this	MIXG HGT AGL from this	TRAN WIND MPH from this	Highest Haines Index (HI) from this	Highest QPF 6HRS DUR daylight hours	Ventilation Rate Kn-ft
				Tabular Tab	*Tabular Tab*	*Tabular Tab*	*Tabular Tab*	*Tabular Tab*	*Tabular Tab*	
CAUTION-CHECK PRECIP	YES	3/28/2012	0	7	21	6818	28	3	0.05	165891
CAUTION-'HI' & PRECIP	YES	3/29/2012	0	5	23	6545	16	5	0.01	90999
	YES	6/25/2012	0	5	6	8650	10	4	0.00	75166
	YES	6/26/2012	0	7	9	5885	16	4	0.00	81823